

AMENDMENT TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 – 24 (Cancelled).

25. (Original) A drive shaft used in a device for displacing molten metal, the drive shaft comprising:

- (a) a first end; and
- (b) a second end, the second end configured to connect to an impeller and having a tapered portion and a threaded portion juxtaposed the tapered portion

whereby the threaded portion is positioned beneath the impeller when the drive shaft is connected to the impeller.

Claims 26 – 30 (Cancelled).

31. (Previously presented) A device for generating a downward stream of molten metal, the device comprising:

- a drive source;
- a drive shaft having a first end connected to the drive source and a second end;
- an open impeller having a plurality of outwardly extending blades and a connective portion formed therein for attaching the impeller to the second end of the drive shaft, wherein at least one of the plurality of outwardly extending blades includes a portion that directs molten metal at least partially downward, wherein the connective portion formed in the impeller comprises a tapered, non-threaded bore extending through said impeller; and

a nut wherein the second end of the drive shaft includes a threaded portion positioned through the non-threaded bore of the open impeller, the nut being threaded onto the threaded portion for removably securing the open impeller to said second end.

32. (Previously presented) The device of claim 31 wherein the portion that directs molten metal at least partially downward is an angled surface.

33. (Previously presented) The device of claim 31 wherein each of the plurality of outwardly extending blades includes angled surfaces for directing molten metal at least partially downward.

34. (Previously presented) The device of claim 31 wherein the impeller comprises four outwardly extending blades formed substantially in a cross shape, wherein each of the outwardly extending blades includes an angled surface for directing molten metal at least partially in a downward direction.

35. (Previously presented) The device of claim 34 wherein the angled surfaces are formed at a 45° angle with respect to an axis of impeller rotation.

36. (Previously presented) The device of claim 31 wherein the impeller has an overall length of at least 28".

37. (Previously presented) The device of claim 34 wherein, in addition to the angled surface, each of the four outwardly extending blades further includes a substantially vertical surface for directing molten metal outward.

Claims 38 - 44 (Cancelled).

45. (Currently amended) A molten metal mixing device, the device comprising:

a drive source;

a drive shaft having a first end connected to the drive source and a second end;

an impeller for mixing molten metal, the impeller comprising two or more blades and a bore for receiving the second end of the drive shaft; and

a fastener to secure the second end to the impeller, the fastener connected to the second end of the drive shaft and positioned beneath the impeller. ~~The mixing device of claim~~ [[44]], wherein the fastener comprises a threaded fastener and wherein the second end of the drive shaft includes threads for receiving said threaded fastener.

46. (Currently amended) The mixing device of claim [[44]] 45 wherein the threaded fastener comprises a nut.

Claims 47 - 52 (Cancelled).

53. (Previously presented) The drive shaft of claim 35 wherein the shaft is comprised of graphite.

54. (Previously presented) The drive shaft of claim 25 wherein the first end of the shaft is connected to a coupling.

55. (Previously presented) The drive shaft of claim 25 wherein the threaded portion has 4" - 4½" U.N.C. threads.

56. (Previously presented) The drive shaft of claim 25 wherein the threaded portion is positioned entirely beneath the impeller when the drive shaft is connected to the impeller.

Claims 57 - 60 (Cancelled).

61. (New) The drive shaft of claim 25 wherein said drive shaft is comprised of graphite.

62. (New) The drive shaft of claim 25 wherein the threaded portion is configured to secure a nut.

63. (New) The device of claim 31 wherein the drive shaft and impeller are each formed of graphite.

64. (New) The device of claim 45 wherein the drive shaft and impeller are each formed of graphite.